



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,627	10/03/2006	Harald Schmid	870-003-216	2021

4955 7590 12/17/2007
WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP
BRADFORD GREEN, BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

GUSHI, ROSS N

ART UNIT	PAPER NUMBER
----------	--------------

2833

MAIL DATE	DELIVERY MODE
-----------	---------------

12/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/599,627

Applicant(s)

SCHMID ET AL.

Examiner

Ross N. Gushi

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11/24/07
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Attachment

Art Unit: 2833

DETAILED ACTION

Claim Rejections - 35 USC § 102 and 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in —

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a);

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 4, 7, 12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsieh. Per claim 1, Hsieh discloses an electrical interconnection arrangement comprising a circuit board (56) equipped with having at least one conductor path (60) applied thereon, and a contact element (col. 3 lines 13-15) for contacting an electrical conductor adapted to transport current to and from said circuit board, and a generally three-dimensional contact element (10) adapted to conductively interconnect said

Art Unit: 2833

electrical conductor and said at least one conductor path on said board, the circuit board has passthrough orifices within a perimeter defined by edges of said at least one conductor path; the contact element has a base part (e.g. at 16, 14, and/or including one tongue 30, and including portions marked on attachment) and feet (see attachment) provided on the base part which engage said orifices of the circuit board (effecting a mechanical connection to the board); the base part is mechanically and electrically connected to the conductor path by means of a soldered connection (58, see attachment); the contact element has a contact tongue (32) that is resiliently articulated on the base part and is implemented for contacting adapted both to mechanically engage with and to electrically contact the electrical conductor.

Per claim 2 at least one lateral guidance member (e.g. walls 18, 20) for the electrical conductor is provided on the contact element

Per claim 3 the lateral guidance member is implemented integrally with the base part.

Per claim 4, said feet each have an attachment end adjacent said contact element and a free end remote from said contact element, and at least some of the feet have a reduced width in the region of adjacent the free end.

Per claim 7 the electrical conductor is implemented as a flat conductor.

Per claim 12, at least one portion of said contact element is configured to rest snugly against said circuit board while at least one of said feet has a major axis at an angle to said circuit board, thereby creating a bending radius at a connection between said foot and said contact element portion, and wherein a bowed segment (see attachment) is

provided at said connection, thereby defining a clearance between said segment and said board.

Per claim 14 said contact tongue (32) mechanically clamps said electrical conductor between the base part and said tongue.

Claims 5, 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh in view of Bender '0144398 and Bender '501. Note that Bender '0144398 discloses the same invention as Bender '501. Bender '501 is cited since it includes the figures referred to in the earlier publication '0144398. Per claim 5, the electrical conductor is inserted engaged between contact tongue and base part. Hsieh does not state that the conductor is welded to the element. Bender discloses laser welding mating contact parts. At the time of the invention, it would have been obvious to attach the conductor to the element using laser welding as is taught in Bender and as is well known in the art. The suggestion or motivation for doing so would have been to establish a secure permanent connection as taught in Bender and as is well known in the art.

Regarding claim 8, Hsieh does not show that the flat conductor is implemented configured for mechanical latching with the contact tongue. Bender discloses mechanical latching means (latch 8 and corresponding recess on contact 7). At the time of the invention, it would have been obvious to include well known latching means such as taught in Bender on the Hsieh device. The suggestion or motivation for doing so would have been to secure the devices together as taught in Bender and as is well known in the art.

Per claim 9 Bender discloses the contact tongue comprises a projection 8, and the flat conductor is equipped with a recess for engagement of that projection.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh.

Regarding claim 13, to the extent that the Hsieh bowed section is not bowed to completely reverse direction, the amount of curvature of the bow could be varied as desired. The degree of bowing of would have been a matter of engineering design choice. See In re In re Dailey, 149 USPQ 47 (CCPA 1966).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh in view of Kawaguchi et al. ("Kawaguchi"). Hsieh does not use press fit feet. Kawaguchi discloses well known press fit feet 14. At the time of the invention, it would have been obvious to replace the Hsieh feet with press fit feet as taught in Kawaguchi and as is well known in the art. The suggestion or motivation for doing so would have been to simplify assembly of the contact and board as taught in Kawaguchi and as is well known in the art.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. ("Nelson") in view of Hsieh. Per claim 1, Nelson discloses an electrical interconnection arrangement comprising a circuit board equipped with having at least one conductor path (implicit) applied thereon, and a contact element for contacting an electrical conductor adapted to transport current to and from said circuit board, and a generally three-dimensional contact element (20) adapted to conductively interconnect said electrical conductor and said at least one conductor path on said board, the circuit board has passthrough orifices within a perimeter defined by edges of said at least one

Art Unit: 2833

conductor path; the contact element has a base part (22 and including flange 32) and feet (36, 42) provided on the base part which engage said orifices of the circuit board; the contact element is electrically connected adjacent its base part to the conductor path by means of a soldered connection (39); the contact element has a contact tongue (24, 26) that is resiliently articulated on the base part and is implemented for contacting adapted both to mechanically engage with and to electrically contact the electrical conductor. To the extent that the circuit board having passthrough orifices within a perimeter defined by edges of said at least one conductor path is not shown, the examiner takes judicial notice that such boards with conductor paths are well known in the art. At the time of the invention, it would have been obvious to use the Nelson contact 20 on a circuit board having passthrough orifices within a perimeter defined by edges of said at least one conductor path. The suggestion or motivation for doing so would have been to electrically connect terminals to a board as is well known in the art.

Nelson does not show solder connecting the base to the board (the solder is shown on the bottom of the board at 39). Hsieh discloses soldering the connector to the board on the top of the board where the base of the connector and board meet. At the time of the invention, it would have been obvious to solder the connector to the top of the board, as at base/flange 32. The technique of soldering the connector to the board at the top of the board (as shown in Hsieh) is well known. One with ordinary skill in the art would have realized that applying the known technique taught in Hsieh to solder the connector to the board would have yielded predictable results. *KSR International Co. v. Teleflex Inc.*, 82 USPQ.2d 1385 (2007).

Art Unit: 2833

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson and Hsieh in view of Orihara and Chen. Nelson does not show an orifice for receiving solder paste. Orihara and Chen each disclose orifices for receiving solder (see notches 18, a8a, 18b in Orihara and orifice 208 in Chen. At the time of the invention, it would have been obvious to include orifices on the Nelson base at 32 as taught in Chen and Kawaguchi and to solder the Nelson flange 32 to the board. The suggestion or motivation for doing so would have been to facilitate a soldered connection between the terminal and the board as taught in Chen and Kawihara and as is well known in the art.

Response to Arguments

Regarding claim 1, applicant argues that Hsieh does not disclose feet "pressed into" the orifices. This is not claimed in claim 1. Claim 15, where this limitation is claimed, is rejected under Hsieh and Kawaguchi.

Applicant argues that the Hsieh does not disclose the base connected to the conductor path. The examiner maintains Hsieh does (see attachment).

Regarding claim 1, at page 9, applicant argues that there is no motivation to secure the contact by pressing the feet. Pressing the feet into the orifice is not claimed in claim, therefore the argument is irrelevant.

Regarding Nelson, again applicant argues regarding press fit feet which are not claimed. The argument is irrelevant to what is claimed.

Art Unit: 2833

Applicant's remaining arguments regarding Nelson are moot in view of the new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2833

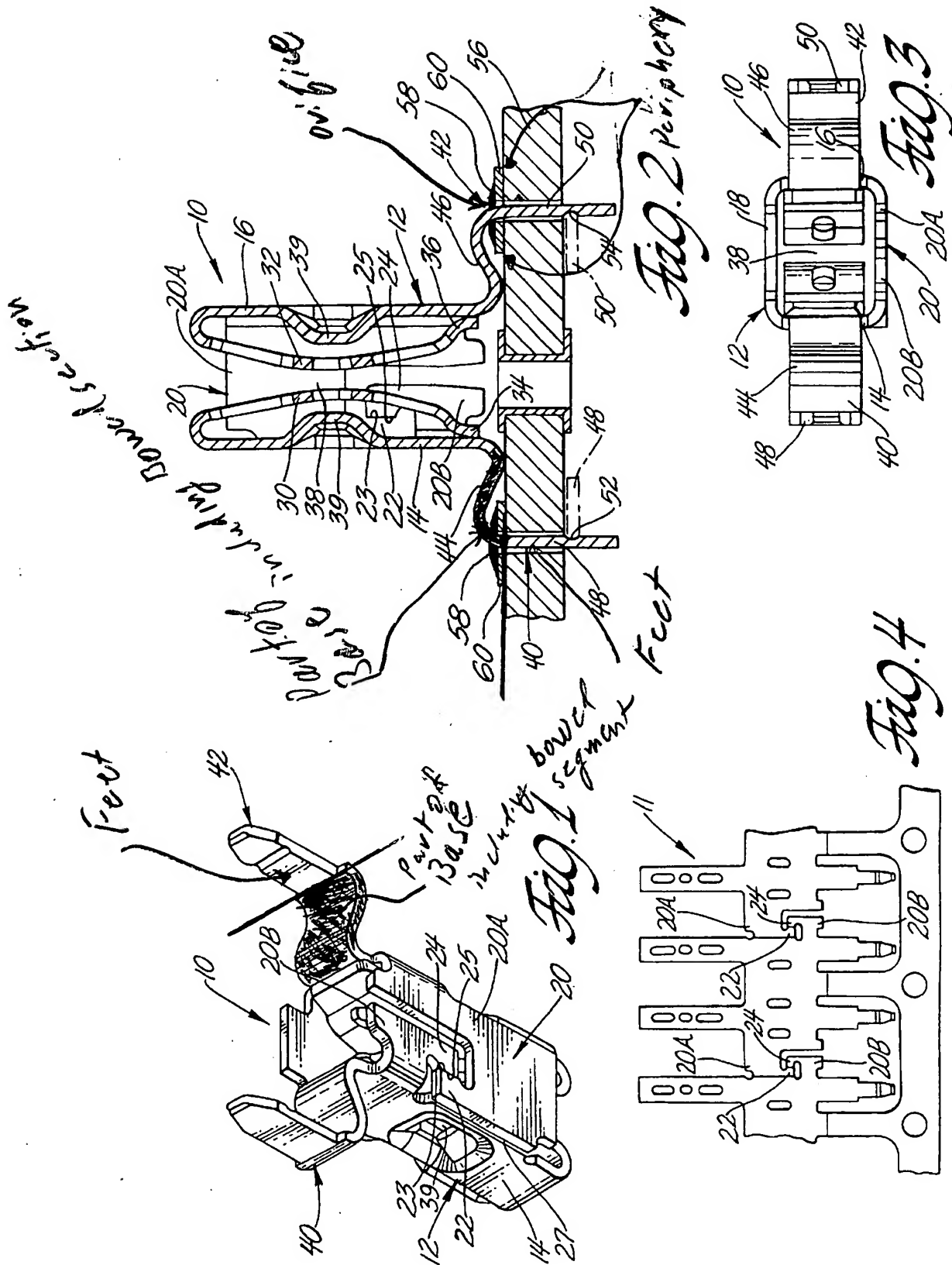
published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ROSS GUSHI
PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read "Ross Gushi", written in a cursive style.



Attachment